

## DATA EVALUATION RECORD

1. Chemical: Dicyandiamide
2. Test Material: Dicyandiamide, white powder designated as HLA No. 41103597 by the testing laboratory. Sponsor assumed responsibility for stability and purity of test material. A June 6, 1986 supplement identifies the compound as SKW 8510 NS, technical grade.
3. Test Type: Avian Oral LD<sub>50</sub> in Mallard Ducks.
4. Study ID: Avian Single-Dose Oral LD<sub>50</sub> in the Mallard Duck (Anas platyrhynchos). Study No. 6026-456. Project No. 2319-102. For: SKW Trostberg AG, Trostberg, Germany, By: Hazleton Laboratories America, Inc. Chemical & BioMedical Sciences Division, 3301 Kinsman Boulevard, Madison, Wisconsin 53704. April 11, 1985.
5. Reviewed by: Zigfridas Vaituzis  
Microbiologist  
EEB/HED  
Signature: *Z. Vaituzis*  
Date: 8/22/86
6. Approved by: Ray Matheny  
Head, Section I  
EEB/HED  
Signature: *Ray Matheny*  
Date: 2/13/87
7. Conclusions:

The avian single dose LD<sub>50</sub> to mallard ducks is > 2000 mg/kg. No acute hazard to mallard ducks is anticipated from the use of dicyandiamide as proposed in the EUP application. Dicyandiamide is practically nontoxic to mallard ducks.

The study fulfills the Guidelines requirement for an Avian Single Dose Oral LD<sub>50</sub>.
8. Recommendations:

N/A.
9. Background:

N/A.
10. Discussion of Individual Tests:

N/A.

11. Methods and Materials:

a. Test Organisms: Mallard ducks, Anas platyrhynchos

Age/Stage of Maturity: 17 weeks old

Body Weights: Weighed upon arrival and weekly thereafter.

Initial Mean weight = 1088 grams.

Sex: 50/50 males and females.

Source: Whistling Wings, Hanover, Illinois.

b. Dosage Form: Test material in gelatin capsules.

Solvents/Vehicles: None

Route of Administration: Test material was administered as a single oral dose delivered to the lower esophagus after overnight fasting. Returned to ad libitum feeding immediately after dosing.

c. Referenced Protocol: EPA Guidelines for Registering Pesticides in the United States, Subdivision E, Hazard Evaluation: Wild and Aquatic Organisms (October 1982), Section 71-1, Avian Single-Dose Oral LD<sub>50</sub> Test (see also Section 70-3, General Test Standards).

Test Levels: 500, 1000, and 2000 mg/kg

Dose Spacing Factor: Single dose test.

Number per level: 5 males and 5 females per group, 3 test groups, males and females in separate cages.

Holding/Acclimation: 20-day conditioning period

Pen/Cage Facilities: Birds were housed in 84 cm x 84 cm x 33 cm battery cages with wire mesh floors and outside walls; five birds/pen.

Feeding: Tap water and feeding ad libitum except during periods of predose fasting.

Test Conditions:

Temperature: 14° to 24 °C

Humidity: Ambient relative humidity ranging from 35 percent to 62 percent.

Photoperiod: A 12-hour light/12 hour dark cycle was maintained.

Diet Preparation: the birds were fed Ralston Purina Duck Growena®, Product 8815, lot No. 4742501

Controls: Two control groups, ten birds each; empty gelatin capsules delivered to lower esophagus.

Observation Period: 14 days

Statistical Methods: Statistical analysis was not required since no mortality occurred during the study.

12. Reported Results:

Effects Criteria: death, weight loss, reduced feeding, and pharmacotoxic signs

LD<sub>50</sub>: > 2000 mg/kg body weight

NEL: > 2000 mg/kg body weight

Observation Period: 14 days, weighed at day 7 and day 14. Observed pharmacotoxic signs hourly for 3 hours after dosing, then daily until termination of the study.

Food Consumption: Not affected at any dose level.

Body Weight Changes: No effect at any dose level.

Toxic Symptoms: No abnormal behavior or conditions indicative of toxicity observed during the study in any test or control birds.

Necropsy Results: Not conducted on any of the birds, because no abnormalities or mortalities occurred.

13. Study Author's Conclusions/Quality Assurance Measures:

The test material, dicyandiamide, was evaluated for oral toxicity (LD<sub>50</sub>) in mallard ducks. Based upon the results obtained, the single-dose oral LD<sub>50</sub> for the test material is in excess of 2000 mg/kg of body weight. No evidence of toxicity was observed at any time during the postdose observation period.

A signed and dated quality assurance statement is attached to the study.

14. Reviewer's Discussion and Interpretation of the Study:

- a. Test Procedures: The procedures are in accordance with protocols recommended by the Guidelines. There are no problems noted with the test methods.
- b. Statistical Analysis: No statistical analysis is necessary since no mortalities or other toxicity symptoms were observed.
- c. Discussion/Results: An avian oral single dose LD<sub>50</sub> to mallard ducks is > 2000 mg/kg, the highest dose tested. No detectable toxic signs were observed during the 14-day observation period. No acute hazard to mallard ducks is anticipated from the use of dicyandiamide as proposed in the EUP application. The chemical is practically nontoxic to mallard ducks.
- d. Adequacy of Test:
  1. Validation Category: Core for technical grade dicyandiamide.
  2. Rationale: Fulfills Guideline requirements.
  3. Reparability: N/A.

15. Completion of One-Liner for Test: October 14, 1986.

16. CBI Appendix: N/A.